- (i) Geologic and topographic considerations;
- (ii) Design of a blast hole, with critical dimensions;
- (iii) Pattern design, field layout, and timing of blast holes; and
  - (iv) Field applications;
- (3) Loading blastholes, including priming and boostering;
- (4) Initiation systems and blasting machines;
- (5) Blasting vibrations, airblast, and flyrock, including—
  - (i) Monitoring techniques, and
- (ii) Methods to control adverse affects;
- (6) Secondary blasting applications;
- (7) Current Federal and State rules applicable to the use of explosives;
  - (8) Blast records;
  - (9) Schedules:
  - (10) Preblasting surveys, including—
  - (i) Availability.
  - (ii) Coverage, and
  - (iii) Use of in-blast design;
  - (11) Blast-plan requirements;
- (12) Certification and training;
- (13) Signs, warning signals, and site control;
- (14) Unpredictable hazards, including—
  - (i) Lightning,
  - (ii) Stray currents,
  - (iii) Radio waves, and
  - (iv) Misfires.

## §850.14 Examination.

- (a) The regulatory authority shall ensure that candidates for blaster certification are examined by reviewing and verifying the—
- (1) Competence of persons directly responsible for the use of explosives in surface coal mining operations through a written examination in technical aspects of blasting and State and Federal laws governing the storage, use, and transportation of explosives; and
- (2) Practical field experience of the candidates as necessary to qualify a person to accept the responsibility for blasting operations in surface coal mining operations. Such experience shall demonstrate that the candidate possesses practical knowledge of blasting techniques, understands the hazards involved in the use of explosives, and otherwise has exhibited a pattern of conduct consistent with the accept-

- ance of responsibility for blasting operations.
- (b) Applicants for blaster certification shall be examined, at a minimum, in the topics set forth in §850.13(b).

## §850.15 Certification.

- (a) Issuance of certification. The regulatory authority shall certify for a fixed period those candidates examined and found to be competent and to have the necessary experience to accept responsibility for blasting operations in surface coal mining operations.
- (b) Suspension and revocation. (1) The regulatory authority, when practicable, following written notice and opportunity for a hearing, may, and upon a finding of willful conduct, shall suspend or revoke the certification of a blaster during the term of the certification or take other necessary action for any of the following reasons:
- (i) Noncompliance with any order of the regulatory authority.
- (ii) Unlawful use in the work place of, or current addiction to, alcohol, narcotics, or other dangerous drugs.
- (iii) Violation of any provision of the State or Federal explosives laws or regulations.
- (iv) Providing false information or a misrepresentation to obtain certification
- (2) If advance notice and opportunity for hearing cannot be provided, an opportunity for a hearing shall be provided as soon as practical following the suspension, revocation, or other adverse action.
- (3) Upon notice of a revocation, the blaster shall immediately surrender to the regulatory authority the revoked certificate.
- (c) Recertification. The regulatory authority may require the periodic reexamination, training, or other demonstration of continued blaster competency.
- (d) Protection of certification. Certified blasters shall take every reasonable precaution to protect their certificates from loss, theft, or unauthorized duplication. Any such occurrence shall be reported immediately to the certifying authority.